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**KODIAK MANAGEMENT AREA  
SAC ROE HERRING HARVEST STRATEGY, 1994**

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By

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## TABLE OF CONTENTS

	<u>Page</u>
LIST OF TABLES .....	i
LIST OF FIGURES .....	i
OVERVIEW .....	1
INTRODUCTION .....	2
GENERAL HARVEST POLICY .....	2
FISHERY MANAGEMENT .....	2
Districts and Management Units .....	2
Guideline Harvest Levels .....	2
1994 Harvest Projections .....	3
Season Dates and Fishing Periods .....	3
INSEASON FISHERY MANAGEMENT .....	4
General Discussion .....	4
Changes in Fishing Period Duration .....	5
Management Unit Boundary Clarification .....	5
Catch Reporting .....	5
ADF&G Field Crews/Fisher Cooperation .....	5
Emergency Order Announcements: "Getting the Word" .....	6
REGULATORY SUMMARY .....	7
Regulation Booklet and Statistical Chart .....	7
Gear .....	7

## TABLE OF CONTENTS (Cont.)

	<u>Page</u>
Seine Specifications and Operations .....	7
Gillnet Specifications and Operations .....	8
Extra Time For Gillnetters .....	8
Waters Closed to Herring Fishing .....	9
Registration Requirements .....	9
Tenders and Processors .....	9
Fishing Vessels .....	10
Herring Size Limits .....	10
Aircraft .....	10

## LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Historical harvest by gear type for the Kodiak sac roe herring fishery, 1964-1993 .....	11
2. Kodiak Management Area sac roe herring fishery industry summary, 1979-1993 .....	12
3. Sac roe herring fishery guideline harvest levels by stock, Kodiak Management Area, 1994 .....	14
4. 1993 Alaska statewide sac roe herring harvests and preliminary 1994 harvest projections .....	17
5. Alaska Department of Fish And Game, Division of Commercial Fisheries 1994 management staff .....	18

## LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1. Reduced scale map of the Kodiak area herring management units, a full scale map can be obtained from the Kodiak ADF&G office .....	19
2. Potential inseason boundary changes for the Village Islands and Terror Bay management units of the Uganik District .....	20
3. Potential inseason boundary changes for the Deadman Bay management unit of the Alitak District .....	21
4. Potential inseason boundary changes for the Inner Kiliuda Bay management unit of the General District .....	22
5. Potential inseason boundary changes for the West Sitkalidak and Kaiugnak Bay management units of the General District .....	23

## OVERVIEW

This document is intended to provide commercial fishermen and buyers with the pertinent information the Alaska Department of Fish and Game (ADF&G) will use to manage the Kodiak commercial sac roe herring fishery.

The 1994 Kodiak sac roe herring fishery guideline harvest level (GHL) is 4,550 tons. The season will begin at 12:00 noon on April 15 and will close at 12:00 noon on June 30. Fishing periods will be 24 hours in duration starting at 12:00 noon on odd numbered days and ending at 12:00 noon on even numbered days.

The Kodiak sac roe herring fishery is currently managed within 75 management units. Historic herring harvests have occurred within 57 of these units and each unit is treated as an individual herring stock. Additionally, there are 11 exploratory management units which potentially support sac roe herring stocks and 7 management units located offshore that lack habitat suitable for spawning.

GHL's are established for each of the 57 management units. Inseason emergency order closures will occur as the GHL's for each unit are achieved. Unit closures may also be implemented prior to attaining the GHL if the fishery performance indicates that stock status is weaker than expected.

All inseason emergency order closures or reopenings will be broadcast on 4.125 mhz following the daily marine weather broadcasts at 8:00 a.m. and 6:00 p.m., also from (April 15- May 1) at 11:00 p.m. News releases will be available both inside and outside the Kodiak ADF&G building. Additionally, the most current closure announcements will be available 24 hours/day on the ADF&G record-a-phone at 486-4559.

All herring buyers/processors and all tender operators are required to register at the Kodiak ADF&G office before starting operations in the Kodiak Area. (Fishing vessels are not required to register.)

**To prevent waste, permit holders are encouraged to check with their markets prior to fishing to determine acceptable minimum size/weight and roe percentages. All herring which are harvested during the sac roe season which are sold as bait or are discarded due to quality problems will be included as part of the total sac roe herring harvest.**

## INTRODUCTION

The Kodiak Area sac roe herring fishery has occurred annually since 1964, (Table 1). This fishery was an open-to-entry fishery from 1964 to 1980, under a moratorium to new entries from 1981 to 1984, and has been a limited entry fishery since 1985.

Since 1964 the harvest has averaged approximately 1,523 tons. Since 1979 the annual harvest has averaged about 2,356 tons and has provided a stable fishery with harvests ranging from 1,559 tons in 1986 to 4,929 in 1993, (Table 2). In recent years approximately 40 purse seiners and 80 gillnetters participate in this fishery annually. In 1993 the ex-vessel value of this fishery was estimated at \$2.7 million dollars.

This fishery targets on individual herring stocks immediately prior to spawning to ensure the greatest roe development and maximum roe recovery. Annual roe recovery for this fishery averages 10%.

This harvest strategy will outline the criteria for the management of the sac roe fishery.

## GENERAL HARVEST POLICY

This commercial fishery is intended to occur in an orderly fashion, with minimal waste of the resource and within conservation limits as determined by ADF&G. Consequently, ADF&G will manage the fishery per the statewide general herring guideline harvest policy which provides for catches in traditional inshore areas, for the greatest roe recovery, and not to exceed a 20% exploitation rate on the available spawning biomass. Roe recovery standards are determined by industry personnel.

## FISHERY MANAGEMENT

### *Districts and Management Units*

The Kodiak Management Area (KMA) is divided into seven districts which define geographical areas used in managing the sac roe herring fishery. Each district is then broken into management units which are intended to define the spawning area used by a stock of herring or to define a geographical area. There are a total of 75 management units (Figure 1).

### *Guideline Harvest Levels*

Harvest projections or guideline harvest levels (GHL's) were established for all management units which have produced consistent herring harvests in previous sac roe seasons. These GHL's are meant to reflect the status of a particular stock of herring by management unit and an estimate of harvest for the unit. These GHL's are **not guaranteed quotas** and the actual harvest may exceed or fall short of these projections. Criteria for establishing the GHL include; 1) 1993

expected biomass vs. actual biomass estimates, 2) average school size, 3) trends in age composition, 4) level of recruitment (age-3), 5) proportion of the spawning population age-5 and younger, 6) proportion of age-2 fish in the spawning biomass (indicator of future recruit strength) and 7) spawn observations (extent, frequency, amount deposited). This information is supplemented by fishery performance information, namely the expected vs. actual harvest timing, harvest duration, and harvest level. Some management units are designated "exploratory" and are assigned no GHL because these areas have had sporadic or no harvest of herring in past years. Inseason closures in these exploratory areas help to avoid excessive harvests.

### ***1994 Harvest Projections***

The 1994 KMA sac roe guideline harvest is approximately 4,550 short tons. The 1994 harvest may be at record or near record levels. The actual harvest will depend on the accuracy of the preseason forecast, and the weather conditions during the season. The GHL's by management unit (Table 3) will be used as an aid in making inseason management decisions. The GHL's are distributed by district as follows: Afognak District 1,005 tons, Uganik District 805 tons, Uyak District 185 tons, General District 1,445 tons, Alitak District 805 tons, and the Mainland District 305 tons. The forecasted harvest for the KMA is 8% of the projected statewide sac roe herring harvest of 56,100 tons, (Table 4).

### ***Season Dates and Fishing Periods***

The 1994 sac roe herring season will run from April 15 through June 30. Initial fishing periods will be 24 hours in duration and will begin at 12:00 Noon on odd numbered days and end at 12:00 Noon on even numbered days.

Because of the differential timing and abundance of Kodiak's various herring stocks, relatively high gear levels to GHL's, and the competition between gear types, this fishery is best served by a fixed opening date, which opens all units of the KMA collectively prior to any significant herring buildups. Staggered days of fishing provide clearly defined closed periods. These periods allow staff time to collect, summarize, and update all harvest data. The closures also allows for comparisons between reported and actual harvests.

## INSEASON FISHERY MANAGEMENT

### *General Discussion*

Inseason management of the sac roe fishery relies primarily on harvest data collected by ADF&G field crews stationed in management units where harvests are anticipated. During the 1994 season four ADF&G field crews and the ADF&G vessels R/V K-Hi-C and Resolution will monitor the fishery.

Generally, once the preseason GHL has been reached for a management unit, it is closed for the season. Due to the rapid pace at which some fisheries occur, inperiod closures are frequent. In management units which have an ADF&G field crew present, inperiod closures may occur with as little as 15 minutes advanced notification time. In management units without field crews inperiod closures may occur by, 1) announcement on single side band frequency 4.125 mhz following the daily marine weather forecast at 8:00 A.M. and 6:00 P.M., 2) field announcement by an ADF&G representative, or 3) by announcement by an ADF&G representative on single side band radio frequency 4.125 mhz at 11:00 P.M. from April 15 through May 1. Further details on Emergency Closures can be seen on page 6, "Getting the Word".

If at any time during the season it appears that preseason expectations were incorrect, GHL's can be adjusted above or below preseason levels. Consequently, units may be closed prior to reaching their GHL's or allow a harvest in excess of the GHL's depending on the assessed spawning biomass. During the regulatory season, April 15 to June 30, stocks which have been closed to harvesting may be reopened if it is determined by ADF&G that new fish have increased the available spawning biomass to the point that the initial exploitation rate has dropped below 10% for that stock, (Table 1). Any reopenings will require confirmation that the "new" fish are not juvenile herring, post spawners, or other forage fish and that ADF&G has the ability to monitor and regulate the reopening "on the grounds". At least 24 hours notice will be given prior to any reopenings.

Actual fishery performance is used to evaluate the health of a particular fishery. Key fishery performance components include: 1) duration of fishing time to harvest the management unit GHL, 2) catch per unit of effort, and 3) quality of herring (i.e. roe recovery percentages, weights, and age compositions). All fishermen, spotter pilots, and processors are encouraged to provide the ADF&G management staff with any information on stocks to improve the management of the fishery.



### *Changes in Fishing Period Duration*

Depending on effort levels, harvest rates, and ADF&G's ability to monitor the fishery, the length of fishing periods during the first two weeks of the season may be reduced. Any changes to the "normal" 24 hour periods will be announced by emergency order.

Later in the season (usually early June) when fleet size and exploitable stocks are fewer, fishing periods may be modified to more adequately harvest late spawning stocks. However, ADF&G's ability to monitor this fishery is limited in late May and June, and this factor will be considered in modifying the fishing periods.

### *Management Unit Boundary Clarification*

Over the past several years some management units have experienced harvests in new locations which may indicate the presence of a new herring stock. To allow for a traditional fishery, along with the development of new fisheries, additional boundaries within existing management units may be needed. If needed these inseason boundaries will be put in affect by an emergency order. Maps which depict these potential inseason boundaries by district can be seen in (Figures 2-5).

### *Catch Reporting*

Processors and independent tender operators are required to provide timely daily tallies of herring deliveries by management unit and accurate estimates of herring onboard tenders that have not yet delivered to the cannery. Timely and accurate harvest reports from ADF&G field crews, fishermen, spotters, and processors are critical in order to assess herring harvests and guide the management of the fishery. Inaccurate or late information could result in premature area closures. To date industry cooperation has been excellent in support of this fishery.

Individual code sheets will be provided to each tender operator or processor required to report catches on a daily basis by radio. **Each tender operator and buyer must register with the Department prior to fishing and will be given a packet containing regulations, statistical charts, etc.**

### *ADF&G Field Crews/Fisher Cooperation*

The crews aboard the Department's R/V K-Hi-C and Resolution and seasonal personnel in remote tent camps will assist the Area Management Biologists, by making frequent fishermen contacts to collect data on harvest levels and rates, fleet movements, and fleet observations of herring

herring concentrations, (Table 5). Fisher cooperation will be appreciated when Department personnel request herring samples from their commercial catch. Samples of juvenile herring inadvertently caught will also be gladly accepted by all ADF&G personnel. Samples will be used primarily for monitoring age composition, and when used with other stock performance indicators, will assist in determining stock status. Copies of historical age data by stock are available at the Kodiak ADF&G office.

ADF&G field crews will also monitor and map spawning activities, and solicit information on commercial sightings to supplement information gathered by ADF&G. Fishermen and spotter pilots are encouraged to provide biomass and spawning information, which will remain confidential. Past cooperation has been excellent and has helped evaluate stock status and gain critical management information.

### *Emergency Order Announcements: "Getting the Word"*

By regulation, both purse seine and gillnet gear are allowed to fish in any open area. This allows for a wide dispersion of gear throughout the management area. Consequently, it is important for the fleet to be aware of any changes in closures or reopenings. This can be accomplished by: 1) personal contact with the herring management staff in Kodiak via office visits, or telephone at 486-1830 , or radio-telephone, 2) contact with ADF&G field personnel and ADF&G vessels, the R/V K-Hi-C and Resolution, on VHF Channel 6 or SSB on 3.230 mhz, 3) contacting any local herring processor and having them transmit the latest Kodiak herring emergency order, 4) **calling the 24-hour recorded message phone at 486-4559**, 5) listening for any emergency order update which will be broadcast following the daily 8:00 A.M. and 6:00 P.M. marine weather broadcasts, on 4.125 mhz or by ADF&G announcement at 11:00 p.m. from April 15 through May 1 on 4.125 mhz, 6) obtaining a copy of the most recent emergency order, which are posted outside the entrance to the Kodiak Fish and Game building, and 7) listening to the Fish and Game reports broadcast over the local AM and FM radio stations (consult stations for broadcast times). No announcements will be given via VHF due to the limited broadcast range from the Kodiak office, however special consideration may be given to the Chiniak Bay fishery.

Inperiod closure announcements for management units do occur. Because of the extensive announcements associated with this fishery, **it is recommended that fishermen document the latest E.O. announcement broadcast by either marking a chart or making a tape recording of the broadcast.**

## **REGULATORY SUMMARY**

### ***Regulation Booklet and Statistical Chart***

There are no regulation changes for the 1994 sac roe herring season. ADF&G annually publishes a regulation booklet, which details Kodiak and statewide herring regulations. The regulation booklet and a statistical chart which illustrates the Kodiak herring management units are available at the Kodiak Fish and Game Office.

Several regulation changes adopted in 1993 by the Alaska State Board of Fisheries and other pertinent regulations are as follows;

### ***Gear***

#### **5 AAC 27.515 Gear.**

- (a) Herring may be taken only by seines, gillnets, and trawls, except that beach seines and trawls may not be used to take herring during the herring sac roe season.
- (b) A herring fishing vessel may operate or assist in operating, or have aboard it, only one legal limit of herring fishing gear in the aggregate, except that a herring fishing vessel may tow or transport other herring fishing vessels containing those vessels own gear.
- (g)The use of leads with any gear used for commercial herring fishing is prohibited during the herring sac roe season.

### ***Seine Specifications and Operations***

#### **5 AAC 27.525. Seine specifications and operations.**

- (a) From April 1 through July 31, no purse seine may be more than 1,025 meshes in depth, including meshes used as chaffing gear, or more than 100 fathoms in length.
- (d)From April 1 through July 31, an Area K CFEC sac roe seine permit holder may use, to take herring, only the vessel identified on the permit, unless the permit holder has registered, in person, at the Department's Kodiak office, to use a replacement vessel. Only one replacement seine vessel may be registered by a CFEC permit holder at a time.

## *Gillnet Specifications and Operations*

### **5 AAC 27.520. Gillnet specifications and operations.**

- (a) The aggregate length of herring gillnets in use by a CFEC permit holder may not exceed 150 fathoms.
- (b) The interim-use or entry permit holder **must be physically present** while the gillnet is being fished.
- (c) Each drift gillnet in operation must have a buoy at one end and the opposite end must be attached to the fishing vessel. Each set net in operation must be anchored and **buoyed** at both ends. **All buoys must be at least 10 inches in diameter and all buoys used on an individual gillnet must be of the same color. Each buoy must be plainly and legibly marked with the permanent vessel license plate number (ADF&G number) of the vessel operating the gear.** The buoy may bear only a single number and this number must be that of the vessel used in operating the gear. The number must be painted on the top one-third of the buoy in numerals at least four inches in height, one-half inch in width and in a color contrasting to that of the buoy. The buoy markings must be visible on the buoy above the water surface. **Set gillnets must have a buoy** spaced every 25 fathoms along the net and the buoys must be floating on the surface of the water.

### *Extra Time For Gillnetters*

Additionally as stated in 5AAC 27.520 (d) when the following conditions exist, herring gillnetters are allowed a **two hour** grace period before having to completely remove their gear from the water.

1. Herring gillnets may remain in the water up to **two hours** after the "primary closure time" for those fishing periods having fishing time of three hours or less.
2. Herring gillnets may remain in the water up to **two hours** after the announced "primary" closure time for those fishing periods greater than three hours in length, where the announcement occurs less than three hours before the scheduled "primary closure time" of the fishing period.

The "primary closure time" is the time at which all seine gear must have completed fishing. When it applies, the "secondary closure time", i.e. at the end of the two hour grace period for gillnet gear, **ALL GILLNETS MUST BE COMPLETELY OUT OF THE WATER AND NO GILLNET GEAR MAY BE SET OR RESET AFTER THE "PRIMARY CLOSING TIME".**

### ***Waters Closed to Herring Fishing***

**5 AAC 27.530. Waters closed to herring fishing.** (a) During the period July 1 through October 31, herring may not be taken in waters described in 5 AAC 18.350 and 5 AAC 39.290. (Waters closed to salmon fishing).

(b)(1) Brown's Lagoon: all waters, beginning at the seaward entrance, are closed to herring fishing from April 15 through June 30.

(3) Uganik Island: lagoons on Uganik Island described as follows are closed to herring fishing from April 15 through June 30:

(A) south and west of a line from (57°51'06" N. lat. 153°13'32" W. long.), to (57°52'07" N. lat., 153°15' W. long.);

(B) north of a line from (57°49'22" N. lat., 153°17'39" W. long.), to (57°49'28" N. lat., 153°19'18" W. long.)

(C) east of a line from (57°50'51" N. lat., 153°19'11" W. long.), to (57°50'04" N. lat., 153°19'11" W. long.);

### ***REGISTRATION REQUIREMENTS***

#### **Tenders and Processors**

The tender registration procedure requires:

- Each tender operator and processor must register with the Kodiak ADF&G office either in person or by an authorized agent for that tender or processor.
- Registration must occur prior to taking fish on board the tender or taking fish at the processing plant.

-(See Regulation 5 AAC 27.540 of the Commercial Herring Regulations for additional information. Note: This regulation will be strictly enforced.

Details of tender and floating processor reporting requirements will be finalized at the time of registration.

## **Fishing Vessels**

There are **no special registration requirements** for either seine or gillnet vessels unless a purse seine permit holder intends to use a different vessel than is listed on their permit card. (See regulation 5AAC 27.525)

## ***Herring Size Limits***

As stated in 5AAC 27.536, no CFEC herring seine permit holder may sell or have aboard a vessel any herring that were taken during the sac roe herring season if the number of individual herring per 50 lbs. of net weight exceeds 250 fish (approximately 91 grams average weight).

TO PREVENT WASTE, PERMIT HOLDERS ARE ENCOURAGED TO CHECK WITH THEIR MARKETS PRIOR TO FISHING TO DETERMINE THE ACCEPTABLE MINIMUM SIZE/WEIGHT AND ROE PERCENTAGES. ALL HERRING WHICH ARE HARVESTED DURING THE SAC ROE SEASON WHICH ARE SOLD AS BAIT OR ARE DISCARDED DUE TO QUALITY PROBLEMS WILL BE INCLUDED AS PART OF THE TOTAL SAC ROE HARVEST.

## ***Aircraft***

There are no restrictions on the use of aircraft.

Table 1. Historical harvest by gear type for the Kodiak sac roe herring fishery, 1964-1993.

Year	Total Harvest Tons	Seine Tons	Gillnet	Number of Companies	Number of Vessels		
					Seine	Gillnet	Total
1964	568	568		2	5		5
1965	657	657		2	8		8
1966	2,769	2,769		4	11		11
1967	1,662	1,662		4	5		5
1968	2,001	2,001		4	10		10
1969	1,130	1,130		9	21		21
1970	342	342		5	13		13
1971	284	284		2	4		4
1972	215	215		1	4		4
1973	831	831		4	11		11
1974	868	868		4	26		26
1975	8	8		3	2		2
1976	5	5		1	1		1
1977	338	338		3	11		11
1978	904	881	23	7	28	7	35
1979	1,735	1,457	278	8	57	125	182
1980	2,383	2,009	374	9	92	109	201
1981	2,065	1,596	469	9	79	114	193
1982	1,771	1,447	324	6	45	67	112
1983	2,319	1,797	522	7	41	64	105
1984	2,163	1,691	472	7	39	69	108
1985	1,968	1,244	724	7	34	81	115
1986	1,558	1,111	448	8	31	71	102
1987	2,146	1,591	555	8	29	62	91
1988	2,171	1,304	868	6	33	76	109
1989	2,249	1,513	736	6	37	83	120
1990	2,347	1,644	703	6	27	63	90
1991	2,432	1,697	735	6	32	64	96
1992	4,283	3,260	1,023	6	40	74	114
1993	4,929	4,203	726	8	41	86	127
Total	49,101	40,123	8,980				
Average	1,637	1,337	561				

Table 2. Kodiak Management Area sac roe herring fishery industry summary, 1979-1993.

Year	Gear Type	Units of Gear	Est. Number Landings	Est. Harvest (Tons)	Est. Harvest Percent	Est. Total Value	Est. Average Earnings	Average Tons/Boat	Average Tons/Landings	Average Landings/Boat
1979	Purse Seine	57	-	1457.2	84	\$2,185,788	\$38,347	25.6	-	-
	Gillnet	125	-	277.9	16	\$416,670	\$3,333	2.2	-	-
	TOTAL	182	-	1735.1	100	\$2,602,458		-	-	-
1980	Purse Seine	92	-	2009.0	84	\$1,377,987	\$14,978	21.8	-	-
	Gillnet	109	-	374.0	16	\$280,423	\$2,573	3.4	-	-
	TOTAL	201	-	2383.0	100	\$1,685,410		-	-	-
1981	Purse Seine	79	207	1596.2	77	\$1,137,764	\$14,402	20.2	7.7	2.6
	Gillnet	114	406	469.2	23	\$395,640	\$3,471	4.1	1.2	3.6
	TOTAL	193	613	2065.4	100	\$1,633,404				
1982	Purse Seine	45	138	1447.0	82	\$801,840	\$17,819	32.2	10.5	3.1
	Gillnet	67	191	323.6	18	\$182,160	\$2,719	4.8	1.7	1.8
	TOTAL	112	329	1770.6	100	\$1,533,404				
1983	Purse Seine	41	164	1796.9	78	\$1,437,520	\$35,061	43.8	11	4
	Gillnet	64	284	521.6	22	\$417,280	\$6,520	8.2	1.8	4.4
	TOTAL	105	448	2318.5	100	\$1,854,800				
1984	Purse Seine	39	138	1691.2	78	\$1,352,960	\$34,691	43.3	12.3	3.5
	Gillnet	69	212	471.5	22	\$377,200	\$5,467	6.8	2.2	3.1
	TOTAL	108	350	2162.7	100	\$1,730,160				
1985	Purse Seine	34	118	1244.2	63	\$1,119,780	\$32,935	36.6	10.5	3.5
	Gillnet	81	348	723.5	37	\$651,150	\$8,039	8.9	2.1	4.3
	TOTAL	115	466	1967.7	100	\$1,770,930				
1986	Purse Seine	31	132	1110.8	71	\$1,054,310	\$34,010	35.8	8.4	4.3
	Gillnet	71	385	448.6	29	\$426,170	\$6,002	6.3	1.2	5.4
	TOTAL	102	517	1559.4	100	\$1,480,480				
1987	Purse Seine	29	122	1591.3	74	\$1,591,300	\$54,872	54.9	13	4.2
	Gillnet	62	411	554.6	26	\$554,600	\$8,945	9	1.35	6.6
	TOTAL	91	533	2145.9	100	\$2,145,900				
1988	Purse Seine	33	169	1303.6	60	\$1,694,550	\$51,350	39.5	7.7	5.1
	Gillnet	76	555	867.2	40	\$1,127,620	\$14,837	11.4	1.6	7.3
	TOTAL	109	724	2170.8	100	\$2,822,170				

-Continued-



Table 2. (page 2 of 2)

Year	Gear Type	Units of Gear	Est. Number Landings	Est. Harvest (Tons)	Est. Harvest Percent	Est. Total Value	Est. Average Earnings	Average Tons/Boat	Average Tons/Landings	Average Landings/Boat
1989	Purse Seine	37	171	1512.6	67	\$1,285,710	\$34,749	40.9	8.8	4.6
	Gillnet	83	627	736.0	33	\$625,600	\$7,537	8.9	1.2	7.6
	TOTAL	120	798	2248.6	100	\$1,911,310				
1990	Purse Seine	27	156	1644.0	70	\$1,397,400	\$51,724	60.9	10.5	5.8
	Gillnet	63	544	703.0	30	\$597,550	\$9,652	11.2	1.3	8.6
	TOTAL	90	700	2347.0	100	\$1,994,950				
1991	Purse Seine	32	169	1697.0	70	\$1,442,450	\$45,077	53.0	10	5.3
	Gillnet	64	587	735.0	30	\$624,750	\$9,762	11.5	1.3	9.2
	TOTAL	96	756	2432.0	100	\$2,067,200				
1992	Purse Seine	40	185	3260.0	76	\$1,630,000	\$40,750	81.5	17.6	4.6
	Gillnet	74	706	1023.0	24	\$511,500	\$6,912	13.8	1.4	9.5
	TOTAL	114	891	4283.0	100	\$2,141,500				
1993	Purse Seine	41	237	4203.0	85	\$2,312,000	\$56,380	102.5	17.7	5.8
	Gillnet	86	294	726.0	15	\$399,000	\$4,640	8.4	2.5	3.4
	TOTAL	127	531	4929.0	100	\$2,711,000				

Table 3. Sac roe herring fishery guideline harvest levels by stock, Kodiak Management Area, 1994.

STAT. AREA	MGMT. UNITS	1994 GUIDELINE HARVEST LEVEL	REQUIRED SPAWNING BIOMASS	
			@10% EXPLOITATION	@20% EXPLOITATION
AFOGNAK DISTRICT				
A010	Raspberry St.	290 TONS	2,900 Tons	1,450 Tons
A020	Malina Bay	180 TONS	1,800 Tons	900 Tons
A031	Paramanof Bay	250 TONS	2,500 Tons	1,250 Tons
A032	Foul Bay	75 TONS	750 Tons	375 Tons
A040	Devils Inlet	10 TONS	100 Tons	50 Tons
A040	Blue Fox	50 TONS	500 Tons	250 Tons <sup>a</sup>
A050	Offshore W. Afog. <sup>a</sup>	-		
A060	Shuyak Is.	20 TONS	200 Tons	100 Tons
A070	Perenosa Bay	15 TONS	150 Tons	75 Tons
A071	Delphin Bay	10 TONS	100 Tons	50 Tons
A072	Seal Bay	10 TONS	100 Tons	50 Tons
A080	Tonki Bay	15 TONS	150 Tons	75 Tons
A090	Izhut Bay	15 TONS	150 Tons	75 Tons
A091	Kitoi Bay	10 TONS	100 Tons	50 Tons
A092	MacDonalds Lagoon	10 TONS	100 Tons	50 Tons
A100	Danger Bay	25 TONS	250 Tons	125 Tons
A101	Litnik	10 TONS	100 Tons	50 Tons
A102	Duck Bay	10 TONS	100 Tons	50 Tons
District Totals		1,005 TONS	10,050 Tons	5,025 Tons
UGANIK DISTRICT				
UG10	Kupreanof	10 TONS	100 Tons	50 Tons
UG20	Viekoda	160 TONS	1,600 Tons	800 Tons
UG21	Terror <sup>d</sup>	180 TONS	1,800 Tons	900 Tons
UG30	Village Island <sup>d</sup>	200 TONS	2,000 Tons	1,000 Tons
UG31	W. Uganik Pass	75 TONS	750 Tons	375 Tons
UG32	NE Arm Uganik	30 TONS	300 Tons	150 Tons
UG33	E. Arm Uganik	75 TONS	750 Tons	375 Tons
UG34	S. Arm Uganik	75 TONS	750 Tons	375 Tons
UG40	Offshore Uganik <sup>a</sup>	-		
District Totals		805 TONS	8,050 Tons	4,025 Tons
UYAK DISTRICT				
UY10	Offshore Uyak <sup>a</sup>	-		
UY20	Harvester Island	10 TONS	100 Tons	50 Tons
UY30	Inner Uyak	50 TONS	500 Tons	250 Tons
UY32	Browns Lagoon	30 TONS	300 Tons	150 Tons
UY31	Larsen Bay	10 TONS	100 Tons	50 Tons
UY40	Zachar Bay	40 TONS	400 Tons	200 Tons
UY50	Spiridon Bay	45 TONS	450 Tons	225 Tons
District Totals		185 TONS	1,850 Tons	925 Tons

-Continued-

Table 3. (page 2 of 3)

STAT. AREA	MGMT. UNITS	1994 GUIDELINE HARVEST LEVEL	REQUIRED SPAWNING BIOMASS	
			@10% EXPLOITATION	@20% EXPLOITATION
ALITAK DISTRICT				
AL10	Outer Alitak	(Exploration)	<sup>b</sup>	<sup>b</sup>
AL20	Inner Alitak	75 TONS	750 Tons	375 Tons
AL21	Outer Deadman Bay <sup>d</sup>	150 TONS	1,500 Tons	750 Tons
AL21	Inner Deadman Bay <sup>d</sup>	250 TONS	2,500 Tons	1,250 Tons
AL30	Sulua/Portage Bay	190 TONS	1,900 Tons	950 Tons
AL40	Lower Olga/Moser <sup>c</sup>	20 TONS	200 Tons	100 Tons
AL40	No. Upper Olga Bay <sup>c</sup>	10 TONS	100 Tons	50 Tons
AL50	So. Upper Olga Bay <sup>c</sup>	110 TONS	1,100 Tons	550 Tons
AL60	Geese/Twoheaded	(Exploration)	<sup>b</sup>	<sup>b</sup>
District Totals		805 TONS	8,050 Tons	4,025 Tons
STURGEON/HALIBUT DISTRICT				
SH10	Sturgeon/Halibut	(Exploration)	<sup>b</sup>	<sup>b</sup>
GENERAL DISTRICT				
GO10	Kaiugnak <sup>d</sup>	20 TONS	200 Tons	100 Tons
GO20	W. Sitkalidak St. <sup>d</sup>	300 TONS	3,000 Tons	1,500 Tons
GO20	SW Sitkalidak St.	120 TONS	1,200 Tons	600 Tons
GO21	Barling	50 TONS	500 Tons	250 Tons
GO22	E. Sitkalidak St.	290 TONS	2,900 Tons	1,450 Tons
GO23	Tanginak Anchorage	15 TONS	150 Tons	75 Tons
GO30	Outer Sitkalidak	(Exploration)	<sup>b</sup>	<sup>b</sup>
GO40	Outer Kiliuda	(Exploration)	<sup>b</sup>	<sup>b</sup>
GO41	Inner Kiliuda (East) <sup>d</sup>	80 TONS	800 Tons	400 Tons
GO41	Inner Kiliuda (West) <sup>d</sup>	60 TONS	600 Tons	300 Tons
GO42	Shearwater	75 TONS	750 Tons	375 Tons
GO53	Pasagshak	30 TONS	300 Tons	150 Tons
GO50	Outer Ugak	60 TONS	600 Tons	300 Tons
GO51	Inner Ugak	120 TONS	1,200 Tons	600 Tons
GO60	Womens Bay	100 TONS	1,000 Tons	500 Tons
GO70	Monashka/Mill B.	(Exploration)	<sup>b</sup>	<sup>b</sup>
GO80	Anton Larsen	10 TONS	100 Tons	50 Tons
GO81	Sheratin	10 TONS	100 Tons	50 Tons
GO90	Kizhuyak	50 TONS	500 Tons	250 Tons
G100	Kalsin Bay	15 TONS	150 Tons	75 Tons
G101	Middle Bay	20 TONS	200 Tons	100 Tons
G102	Inshore Chiniak	10 TONS	100 Tons	50 Tons
G103	Spruce Island	10 TONS	100 Tons	50 Tons
District Total		1,445 TONS	14,450 Tons	7,225 Tons
MAINLAND DIST.				
M010	North Mainland	(Exploration)	<sup>b</sup>	<sup>b</sup>
M020	Inner Kukak	65 TONS	650 Tons	325 Tons
M030	Outer Kukak <sup>a</sup>	-	<sup>a</sup>	<sup>a</sup>
M040	Inner Missak	(Exploration)	<sup>b</sup>	<sup>b</sup>
M040	Outer Missak <sup>a</sup>	-	<sup>a</sup>	<sup>a</sup>
M050	Inner Katmai	65 TONS	650 Tons	325 Tons

-Continued-

Table 3. (page 3 of 3)

STAT. AREA	MGMT. UNITS	1994 GUIDELINE HARVEST LEVEL	REQUIRED SPAWNING BIOMASS	
			@10% EXPLOITATION	@20% EXPLOITATION
MAINLAND DISTRICT (Cont.)				
M060	Outer Katmai <sup>a</sup>	-	<sup>a</sup>	<sup>a</sup>
M070	Alinchak	50 TONS	500 Tons	250 Tons
M080	Puale Bay	(Exploration) <sup>b</sup>	<sup>b</sup>	<sup>b</sup>
M090	Portage Bay	(Exploration)	<sup>b</sup>	<sup>b</sup>
M100	Outer Portage <sup>a</sup>	-	<sup>a</sup>	<sup>a</sup>
M110	Wide Bay	125 TONS	1,250 Tons	625 Tons
M120	Lower Shelikof	(Exploration)	<sup>b</sup>	<sup>b</sup>
District Total		305 TONS	3,050 Tons	1,525 Tons
GRAND TOTAL		4,550 TONS	45,500 Tons	22,750 Tons

<sup>a</sup> These are offshore management units which are not expected to yield herring of sac roe quality. These units are more applicable to the food/bait fishery. (See Herring Food/Bait Fishery Management Plan.)

<sup>b</sup> Adequate biomass to justify an "exploratory" harvest; the actual harvest should not exceed 20% of the available biomass.

<sup>c</sup> The following management units have been modified either in name or boundaries for the purpose of inseason management of the Olga/Moser Bay herring stocks. Each unit will be described by emergency order when closures are issued for these units.

-AL40 Lower Olga/Moser Unit: Formerly that portion of the Olga/Moser Bay Section south of the latitude of Stockholm Point.

-AL50 North Upper Olga Unit: Formerly that portion of the Olga/Moser Bay Section north of the latitude of Stockholm Point.

-AL50 South Upper Olga Unit: Formerly called the Upper Olga Bay Section.

<sup>d</sup> The boundaries for the following management units maybe modified inseason as shown in Figures 2-5.

-Uganik District: The Village Island and Terror Bay Management Units.

-Alitak District: Deadman Bay Management Unit.

-General District: West Sitkalidak, Kaiugnak Bay, and the Inner Kiluida Bay Management Units.

Table 4. 1993 Alaska statewide sac roe herring harvests and preliminary 1994 harvest projections.

Fishery	1993 ACTUAL		1994 PROJECTIONS				
	Opening or First Harvest	Harvest (s. tons)	Harvest (s. tons)	Expl. Rate	Mean Wt. (g)	Spawning Biomass (s. tons)	Stock Status/Trend
<b>Southeastern</b>							
Kah Shakes	4/10	725	1,032	11%		9,299	Moderate/Increasing
Sitka	3/27	10,154	4,100	16%		25,634	Moderate/decreasing
Seymour Canal	Closed		0	10%		3,552	Moderate/Increasing
Lynn Canal	Closed		0			-	Depressed/Stable
Hoonah Snd. Pound	4/06	12.	12 <sup>a</sup>			-	No data
Craig Pound	4/17	19 <sup>a</sup>	11.			12,350	Moderate/Stable
<b>Prince William Sound</b>							
Seine	No harvest	0	2,615				
Gillnet	4/15	1,030	153				
Pound Kelp	4/10	163 <sup>a</sup>	305 <sup>a</sup>				
Wild Kelp	4/09	175 <sup>a</sup>	268 <sup>a</sup>				
Total		1,368	3,341	15%		30,000	High/Stable
<b>Cook Inlet</b>							
Kamishak District	4/21	3,570	3,421	15% <sup>b</sup>	207	25,344	Moderate/Stable
<b>Kodiak</b>							
Sac Roe	4/15	4,929	4,550			Unknown	No data
<b>Chignik Sac Roe</b>	No Fishery		-			Unknown	No data
<b>Alaska Peninsula</b>							
North Peninsula							
Port Heiden		0					
Port Moller		536	1,200			Unknown	High/Stable
South Peninsula		97	200			Unknown	Moderate/Stable
<b>Bristol Bay (Togiak)</b>							
Seine	4/27	14,041	18,832				
Gill Net	4/29	3,562	6,277				
Spawn on Kelp	5/01	191 <sup>a</sup>	175 <sup>a</sup>				
Total			25,284	20% <sup>c</sup>		142,498	Moderate/Decreasing
<b>Kuskokwim Area</b>							
Security Cove	5/12	5	1,528	20%		6,282	High/Stable
Goodnews Bay	5/12	906	1,136	20%		3,600	High/Stable
Cape Avinof	5/23	210	424	15%		2,358	Moderate/Stable
Nunivak Island	No harvest	0	736	15%		3,942	Moderate/Stable
Nelson Island	5/17	732	733	15%		3,514	Moderate/Stable
Cape Romanzof	5/17	369	414	15%		2,369	No data
<b>Norton Sound</b>							
Gillnet	5/25	4,291	7,031				
Beach Seine	5/24	742	781				
Total		7,255	12,783	20%		45,270	High/Increasing
<b>Port Clarence</b>	No Harvest		165			Unknown	
<b>Sac Roe Harvest Total<sup>d</sup></b>							
		46,459	56,099			316,012	

<sup>a</sup> Harvest of spawn-on-kelp product in short tons.

<sup>b</sup> Kamishak District exploitation rate includes the eastern Shelikof food and bait harvests.

<sup>c</sup> Togiak exploration rate includes allowances for spawn-on-kelp fishery and Dutch Harbor food and bait harvest.

<sup>d</sup> Sac roe statewide total harvests do not include allowances for spawn-on-kelp fishery mortality.

Table 5. Alaska Department of Fish and Game, Division of Commercial Fisheries 1994 management staff.

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Boat Officer

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Fishery Technician  
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Fishery Technician  
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Fishery Technician

Kim Rudge  
Mo Lambdin  
Jon Becker  
Ed Hajdys  
Paul Kuriscak  
Shawna Rudio  
Mike Barnes  
George Pappas

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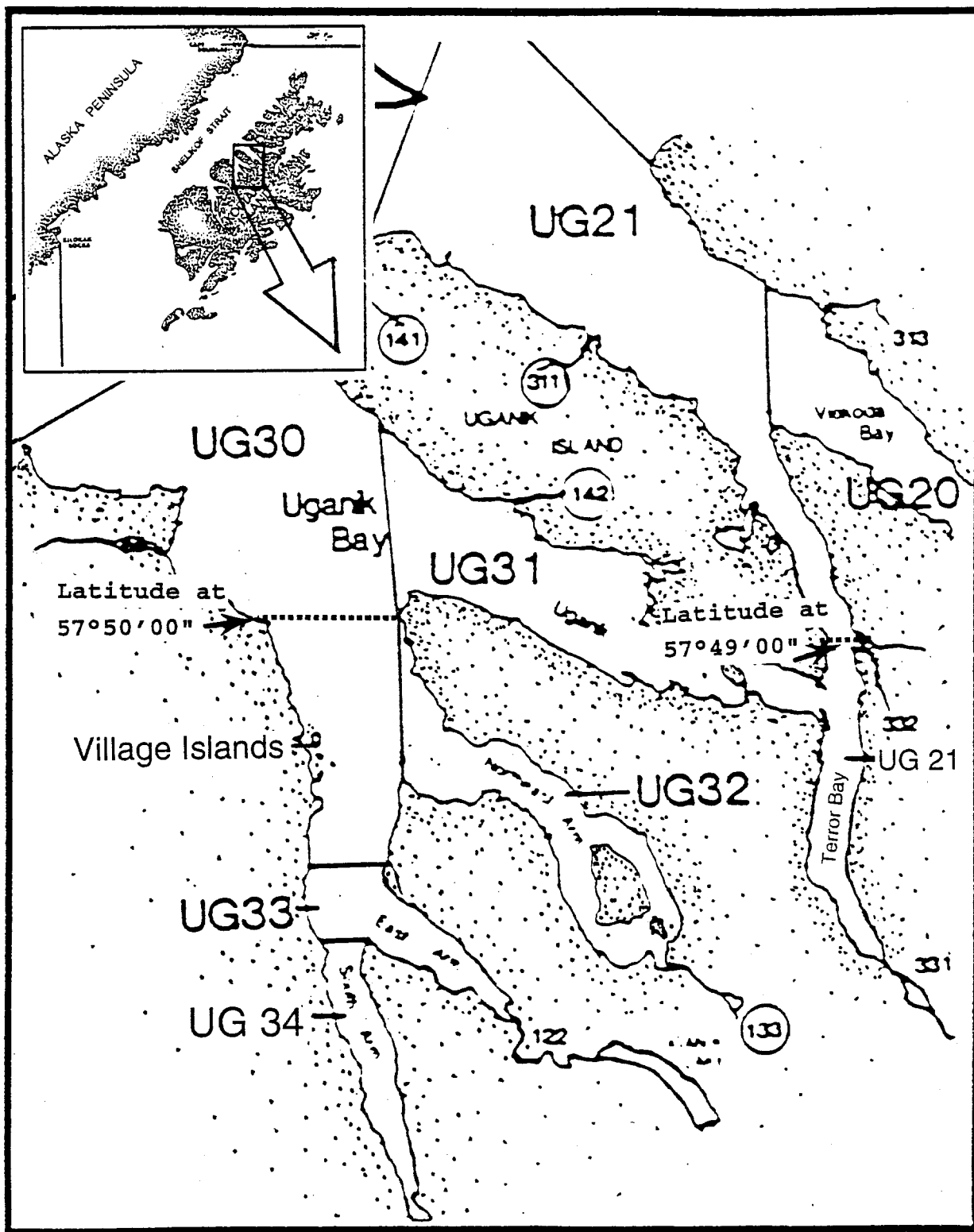
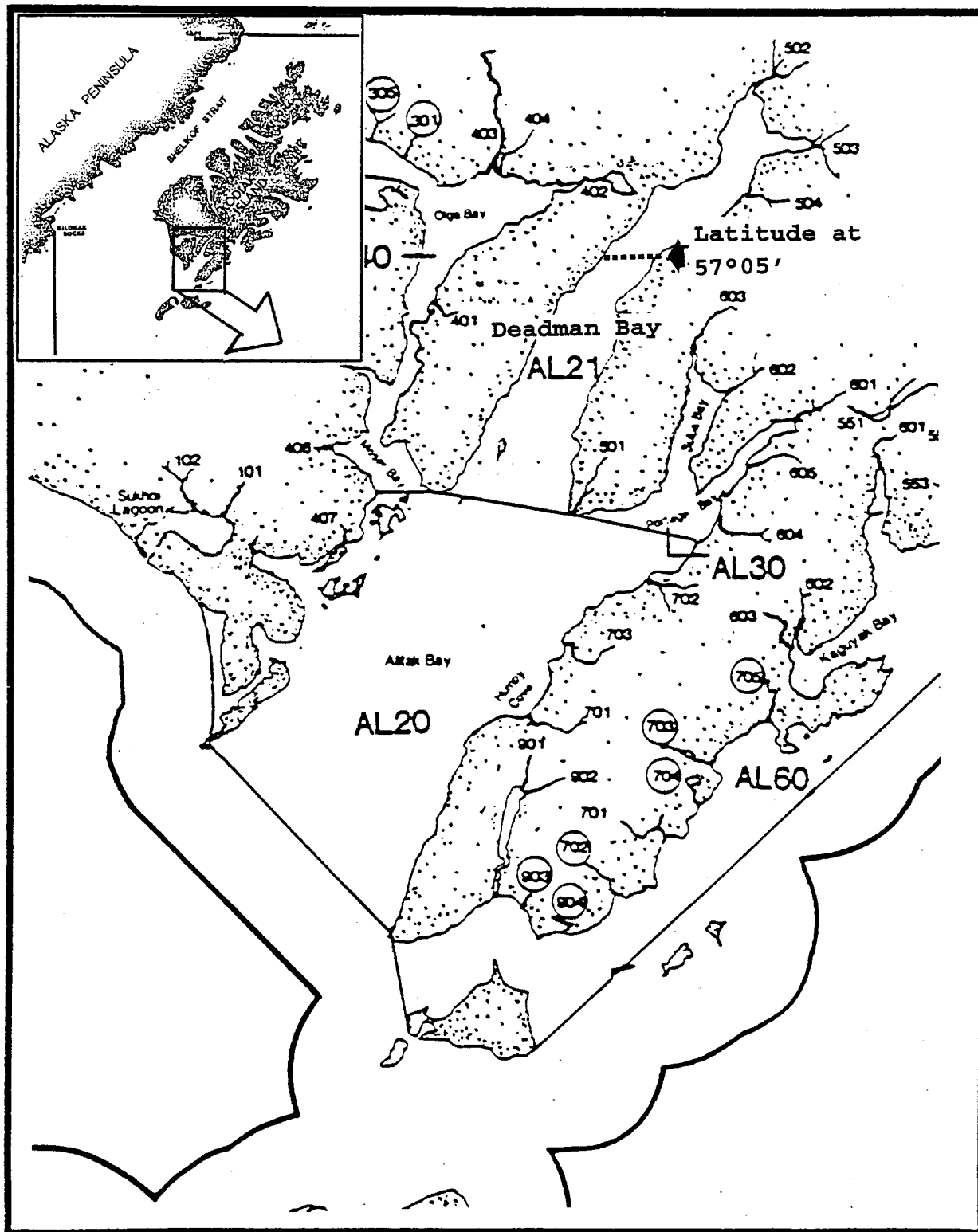


Figure 2. Potential inseason boundary changes for the Village Islands and Terror Bay management units of the Uganik District.





**Figure 3. Potential inseason boundary changes for the Deadman Bay management unit of the Alitak District.**

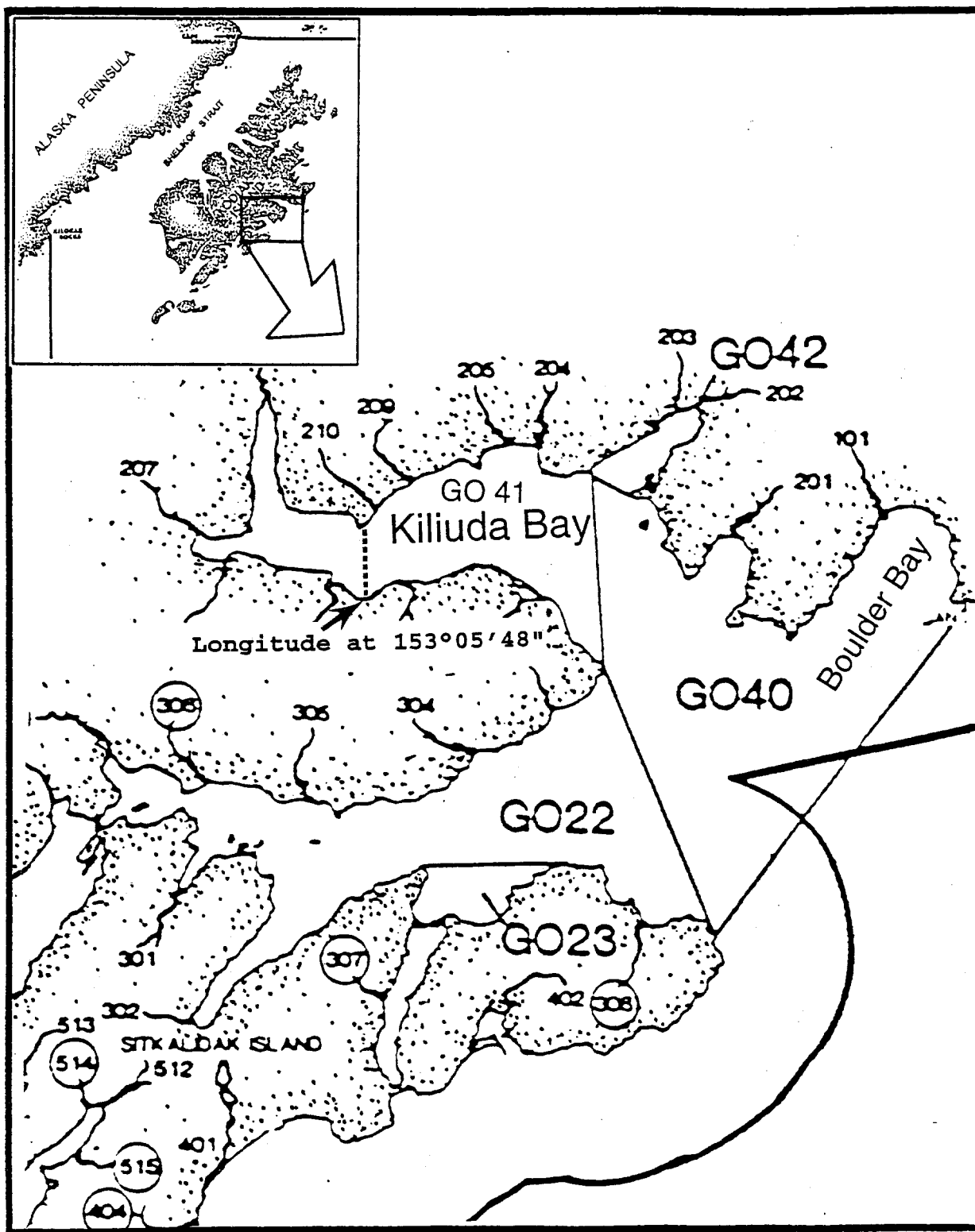


Figure 4. Potential inseason boundary changes for the Inner Kiliuda Bay management unit of the General District.

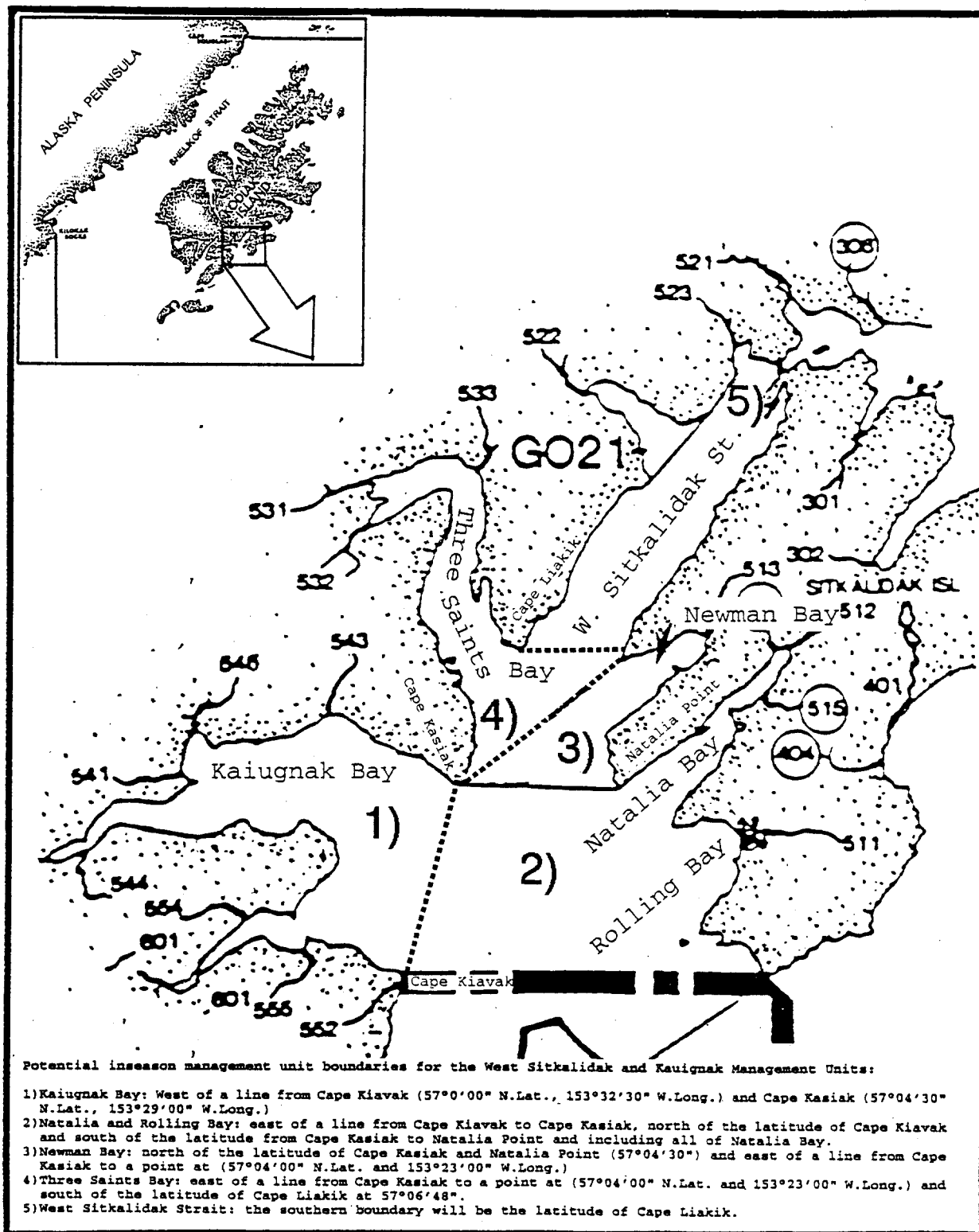


Figure 5. Potential inseason boundary changes for the West Sitkalidak and Kaiuignak Bay management units of the General District.

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